"Warning: Installing or dismantling this product near power lines is dangerous. For your safety, follow the safety directions."

Installation and dismantling safety instructions

You, your antenna, and safety

Each year hundreds of people are killed, mutilated, or receive severe permanent injuries when attempting to install or dismantle an antenna. In many of these cases, the victim was aware of the dangers of electrocution but did not take adequate steps to avoid the hazard.

For your safety and to help you achieve a safe installation, please **read and follow** the safety precautions below. **They may save your life!**

1. If you are installing or dismantling an antenna for the first time, please, for your own safety as well as others, seek **professional assistance.** Consult your dealer. He can explain which mounting or dismantling method to use for the size and type antenna you are about to install or dismantle.

2. Select your installation site with safety, as well as performance, in mind. (See information on Site Selection.) **Remember: Power lines and phone lines look alike. For your safety, assume that any overhead lines can kill you.**

3. Call your power company. Tell them your plans and ask them to look at your site. This is little inconvenience, considering **your life is at stake.**

4. Before you begin, plan your installation or dismantling procedure carefully. Successful installation or dismantling of a mast or tower is largely a matter of coordination. Each person should be assigned to a specific task and should know what to do and when to do it. One person should be designated as the "boss" to call out instructions and watch for signs of trouble.

5. When installing or dismantling your antenna, **Remember: Do not** use a metal ladder. **Do not** work on a wet or windy day or if a thunderstorm is approaching. **Do** dress properly -- shoes with rubber soles and heels, rubber gloves, long sleeve shirt or jacket.

6. If the assembly starts to drop, get away from it and let it fall. **Remember:** The antenna, mast, cable, and metal guy wires are all excellent conductors of electrical current. Even the **slightest touch** of any of these parts to a power line completes an electrical path through the antenna and the installer -- **that's you!**

7. If any part of the antenna system should contact a power line -- **Don't touch it or try to remove it yourself. Call your local power company.** They will remove it safely.

8. If an electrical accident should occur -- **don't** grab hold of the person in contact with the power line or you too will be electrocuted. Use a **dry** board, stick or rope to push or pull the victim away from the antenna. If the victim has stopped breathing, administer artificial respiration -- and stay with it. Have someone call for medical help.

Site selection: **Before** attempting to install your antenna, think where you can best place your antenna for **safety** and performance. To determine a safe distance from wires, power lines, and trees: 1) Measure the height of your antenna; 2) Add this length to the length of your tower or mast; and then, 3) Double this total for the minimum recommended **safe** distance.

If you are unable to maintain this safe distance, **stop! Get professional help.** Generally, the higher the antenna is above ground, the better it performs. Good practice is to install your antenna above the roof line and away from power lines and obstructions. Remember that the FCC limits your CB antenna height. If possible, find a mounting place close to your set, where the antenna wire can take a short, vertical drop on the outside of the house for entry through a wall or window near the set. Your dealer carries a complete line of installation and grounding hardware.

060190

BEWARE

Guyed Towers are Not Self-Supporting at any Height

You could be killed.

When dismantling a guyed tower always consult your Local Tower Installer. The condition of a used tower is difficult to determine and in the process of dismantling you could be killed or seriously injured.

Dismantling and installation should be done with temporary guying if necessary. Guyed towers are not self-supporting at any height.

FORM NO. 85-1708

INSTALLATION SUPERVISORS, WARNING LABELS, CATALOGS, GUY CHARTS, ETC. ARE AVAILABLE FROM ROHN.

DUE TO GOVERNMENT REGULATIONS, BE SURE YOUR CUSTOMERS ARE INFORMED AS TO PROPER USE WHEN PURCHASING ANY ANTENNA SUPPORTING STRUCTURE.

THE MIXING OF SO-CALLED INTERCHANGEABLE COPIES OF ROHN TOWERS WITH ROHN TOWERS IS DANGEROUS AND VOIDS ALL ENGINEERING OR WARRANTY DATA SUPPLIED BY ROHN. MATERIALS USED BY THE SO-CALLED COPIES ARE NOT THE SAME QUALITY AND HAVE NOT BEEN TESTED OR ENGINEERED BY ROHN TO CONFORM TO THE SAME QUALITY STANDARDS. MIXING OF ROHN ITEMS MAY ENDANGER THE LIVES OF YOUR CUSTOMERS AND CAUSE SERIOUS TOWER FAILURES AND FINANCIAL MISFORTUNE FOR ALL CONCERNED.

Installing and rigging towers, masts, and antennas require specialized skills and experience. Information supplied by Rohn assumes that all products will be installed by personnel having these skills and having installed similar products before. No one should attempt to install towers or masts without these skills and experience.

Rohn assumes no liability if faulty or dangerous installation practices are used. There are available trained and experienced personnel to assist in installation, maintenance, and disassembly. Contact your local installer if consultation or assistance is required.

Rohn does not recommend or warrant in any way the use of used tower sections. The use of used tower sections voids all warranties set forth by Rohn because no one knows if the used material has been misused, overloaded, or damaged. If, for some reason, tower sections are re-used, all new, galvanized, high strength bolt assemblies are recommended.

Rohn recommends anti-climb sections on all towers to prevent unauthorized persons from climbing towers.

All antenna installations must be grounded per local or national codes.

Do not install towers or masts near power lines. All towers or masts should be installed out of falling distance of power lines since every electrical and telephone wire should be considered dangerous.

All types of antenna installations should be thoroughly inspected by qualified personnel and remarked with hazard and warning labels at least twice a year to insure safety and proper performance.

Rohn makes available many items and types of towers which may or may not be required for your particular installation. Based on local, state, or federal laws and building codes for your area, it may be necessary that your particular tower have special items or be given special consideration.

Rohn makes available, either as standard or specials, many items and special care should be taken as to whether any or all of these items are required for your tower. Please be specific and advise us of your exact needs. Rohn cannot be responsible for any omission at anytime.

Some items available in various types and sizes are safety climbing devices, ladders, safety cages, anti-climbing devices, work platforms, rest platforms, F.A.A. painting or lighting, grounding, and fencing. Special engineering service and special packaging are also available. If there are any special requirements for your tower, be sure to include them in your request for quotation and on your order.

Due to the present day Occupational Safety and Health Act regulations, towers and parts are available incorporating features which will permit a safe product. However, the following is our position with regard to OSHA.

It is Rohn's intention to comply with the Williams-Steiger Occupational Safety and Health Act of 1970. It is a policy of Rohn to design and make towers and related equipment that are safe to use without hazards to people and/or property. We cannot, however, agree to a "blanket" certification that we are in total compliance with this Act because there are provisions in it whose meaning and application are unclear.

Therefore, we ask that you list your specific requirements with which you wish us to comply. These requirements may or may not affect the price of the towers and equipment under consideration for purchase.

We appreciate the opportunity afforded and would be happy to answer any additional questions you may have relative to our proposal.

Your tower may or may not include step bolts for construction purposes. Step bolts are supplied on self-supporting towers as a convenience during construction.

If your tower has step bolts, the spacing at the section joints may not be consistent with the spacing throughout the tower. If this condition presents any hazard, please do not use these step bolts. If you or your customer think this possible unequal spacing will present safety problems to any personnel, do not install any step bolts. For proper safety Rohn recommends a ladder and safety climbing device on large towers where inexperienced personnel climb the tower.

Rohn will not be responsible for the use of step bolts. If you wish to use step bolts as supplied, this responsibility will be totally yours or your customers.

UNR-Rohn
Division of UNR, Inc.

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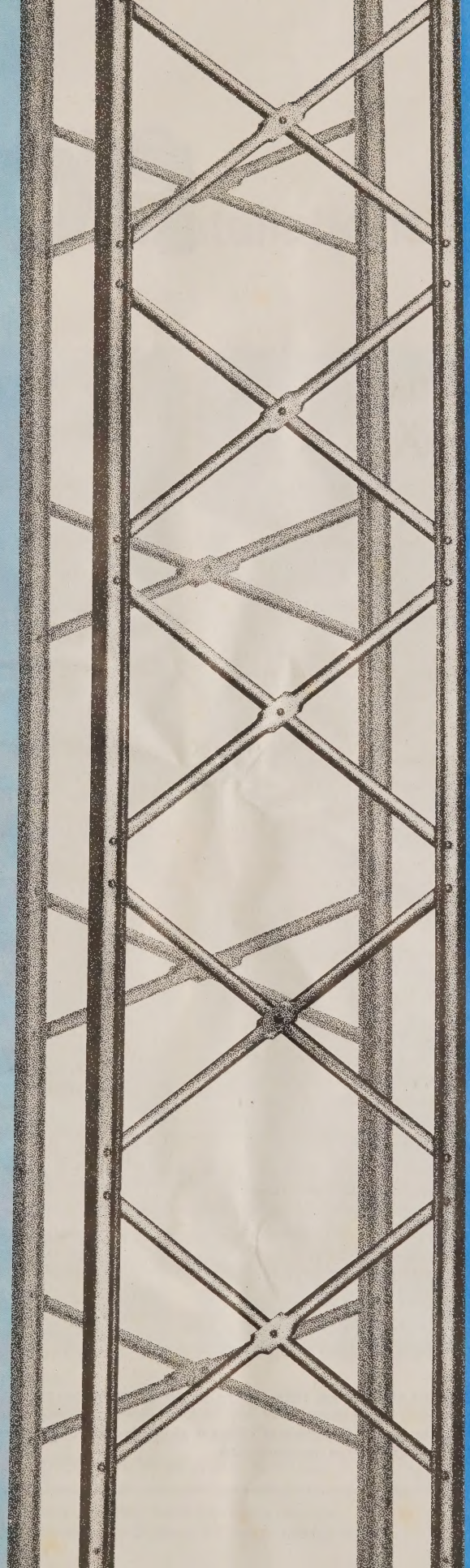
310 Quincy Street
Reno, NV 89512

2631 Tarna Street
Dallas, TX 75229

DANGER
YOU CAN BE
KILLED

If you are installing a CB base antenna and tower yourself — DO NOT attempt to raise the installation near any type of power line. Should your installation come into contact with any power lines *you can be KILLED.* Be sure your installation is out of falling distance of any overhead wires — including the lead to your home. Read all instructions carefully before you begin or better yet — call a professional — It May Save Your Life.

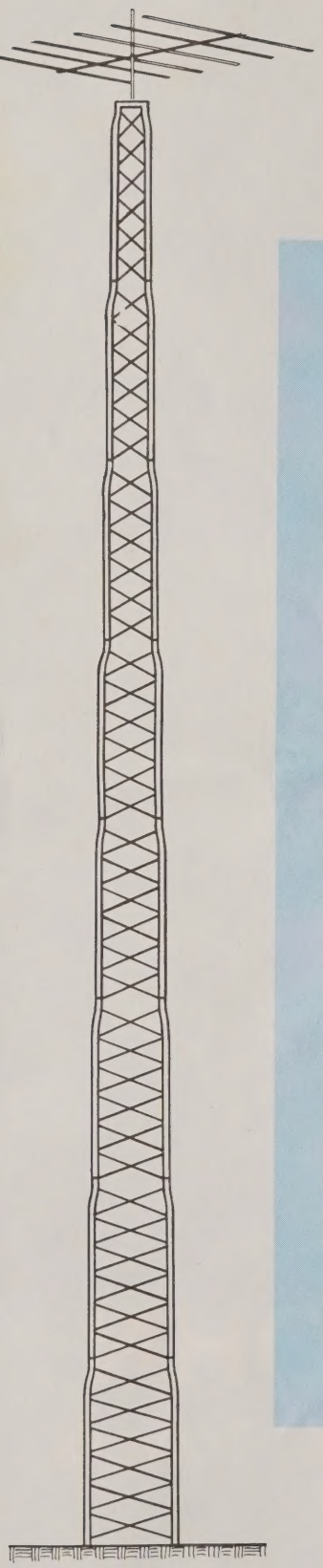
ROHN®
6718 West Plank Road
P.O. Box 2000 • Peoria, Illinois 61656



For Home TV
Ham Radio
and CB

ROHN®

"BX"® Towers



ROHN®

STANDARD
BX

Most Basic Tower Needs

- Up to 6 sq. ft. antenna capacity (see specifications)
- Available to 64′ in 8′ sections
- "X" Brace design gives greater strength — braces riveted in center as well as at ends
- Greater width and weight at bottom — for greater strength
- Beaded channel leg for added strength
- All riveted construction — no welds
- All steel — galvanized for added life
- Can be used with Concrete Base Stubs, Cylinder Base or Hinged Concrete Base (see tower accessories chart)
- Tower can be assembled on the ground and hinged up or built vertically, section upon section
- Rotators easily installed
- Physical properties and specifications available
- Compact Nested 48′ Tower Package — takes only 2 sq. ft. floor space

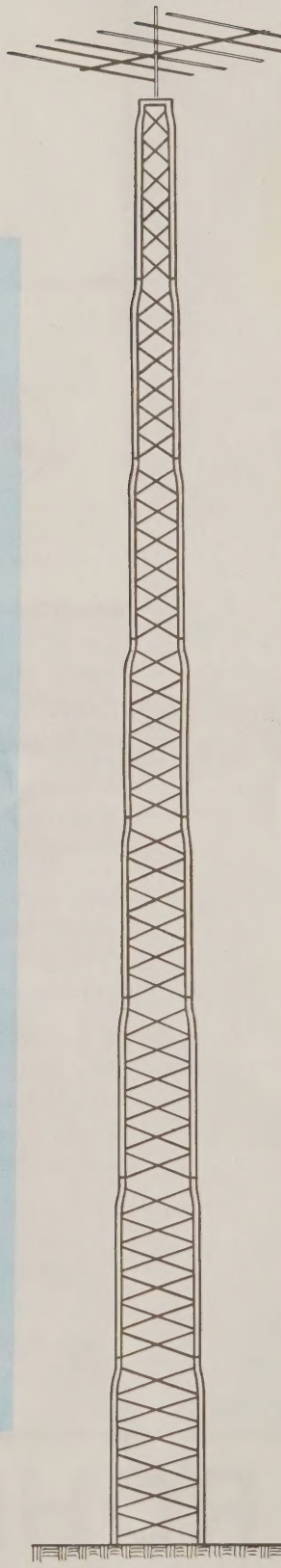
HEAVY DUTY
HBX

For Heavier Capacity

- Has same structural features as BX
- Up to 10 sq. ft. antenna capacity (see specifications)
- Available to 56′ in 8′ sections
- This tower will hold larger antennas and rotators than standard BX tower. Top of HBX tower is a 10-3/16″ triangle
- Rotators easily installed
- Can be used with Concrete Base Stubs or Hinged Concrete Base (see tower accessories chart)
- Tower can be assembled on the ground and hinged up or built vertically, section upon section
- Physical properties and specifications available
- Compact Nested 56′ Tower Package — takes only 2-1/2 sq. ft. floor space

Antenna types for BX, HBX, and HDBX should be limited to those having a maximum boom length of 10 feet. No engineering data relating to the use of boom lengths in excess of 10 feet is available and the use of such boom lengths is not recommended.

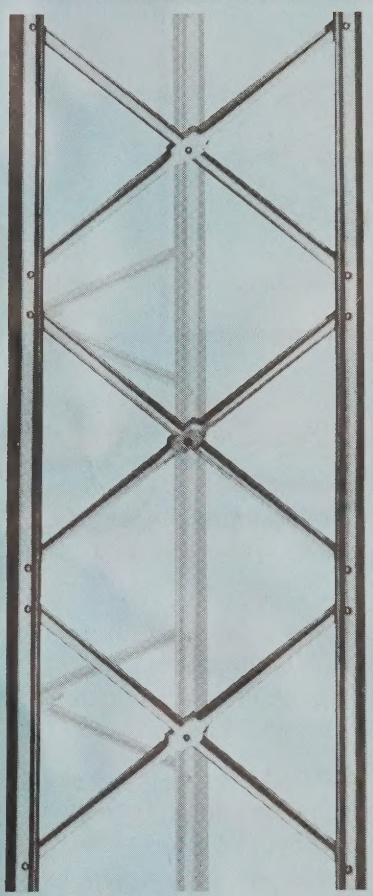
BX® TOWERS
For TV, Ham, CB Installations



EXTRA HEAVY DUTY
HDBX

Our Heaviest BX Tower

- Has same structural feature as BX
- Up to 18 sq. ft. antenna capacity (see specifications)
- Available to 48′ in 8′ sections
- Due to design structure this tower will withstand greater loading than other models. Top of HBDX tower is a 12-3/4″ triangle
- Rotators easily installed
- Can be used with Concrete Base Stubs or Hinged Concrete Base (see tower accessories chart)
- Tower can be assembled on the ground and hinged up or built vertically, section upon section
- Physical properties and specifications available
- Compact Nested 48′ Tower Package — takes only 2-1/2 sq. ft. floor space



Towers As Packed For Shipping

BX, HBX, and HDBX series towers are shipped with all necessary sections, appropriate top and rotor plates, and hardware. An 8′ mast (M8) is also shipped with BX series towers but is not shipped with HBX and HDBX series towers.

BASE MUST BE ORDERED SEPARATELY. Bases (BXB, BXHC, and BXCA) are illustrated on back page. Refer to parts lists for additional information.

Note: The part number for each section and brace is stamped into each part . . . making for easier identification when attempting to identify for replacement parts or adding to an existing tower.

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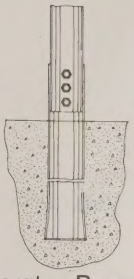
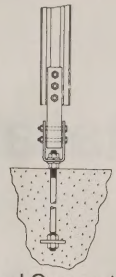
Specifications Subject To Change Without Notice.

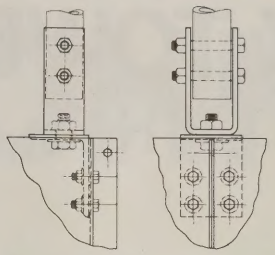
Tower Accessories



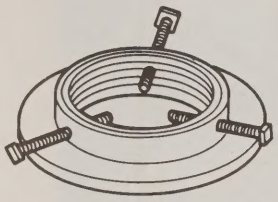
4' Concrete Base Stubs
(BX B)



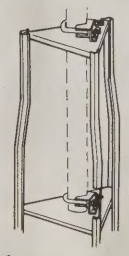
Hinged Concrete Base
(BX HC)



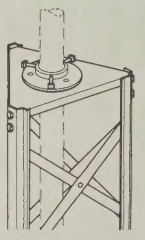
* 4' Cylinder Base
(BX CA)



Heavy Duty Mast Clamp
(FL)



Mast Hardware Kit
(BX MK2)



Top Plate Assembly (BXT)
Heavy Duty Mast Clamp (FL)

Tower "Package" — compact shipping and storage method. Includes all necessary parts and hardware.

All towers are recommended to be bracketed for extra safety and to withstand gusty wind conditions.

Note: Local building and/or zoning laws frequently require a building permit. Available BX Engineering Data should be submitted for approval prior to purchasing a tower.

Do not install towers and masts near power lines. All towers or masts should be installed twice the height of the installation away from power lines since every electrical wire must be considered dangerous.

ROHN recommends anti-climb sections on all towers to prevent unauthorized persons from climbing towers.

*** Not Recommended**
Convenience Item Only

All towers and masts should be installed and dismantled by experienced and trained personnel.

All types of antenna installations should be thoroughly inspected by qualified personnel and remarked with hazard and warning labels at least twice a year to insure safety and proper performance.

All antenna installations must be grounded per local and national codes.

The mixing of so-called interchangeable copies of ROHN products is dangerous and voids all engineering or warranty data supplied by ROHN Materials used by the so-called copies are not the same quality and have not been tested or engineered by ROHN to conform to the same quality standards. Mixing of non-ROHN items may endanger the lives of your customers and cause serious tower failures and financial misfortune for all concerned.

ROHN®

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Form No. 76660 R3-86
Printed in U.S.A.

SHEET D-2521
(Replaces D-2332)

March 1, 1989

BX TOWER

PART NUMBER		WT.
8' BX Sections		
BX1A	Offset top section w/BXT1, BXR1, BXMK2	26
BX2	Standard offset section	24
BX2A	Offset top section w/BXT2, BXR2, FL	31
BX3	Standard offset section	29
BX3A	Offset top section w/BXT3, BXR3, FL	39
BX4	Standard offset section	42
BX5	Standard offset section	60
BX6	Standard offset section	65
BX7	Standard offset section	75
BX8	Standard offset section	83

Nuts and bolts are included in section prices.

BX Accessories		
BXMK2	Mast hardware kit w/rotor post for top and rotor plate	2
FL	Heavy duty mast clamp	3
TB3	Heavy duty thrust bearing, recommended for 2" O.D. tubing (for use with section 3 with field drilled hole)	2-1/2
TB4	Heavy duty thrust bearing, recommended for 3" O.D. tubing (for use with section 3 with field drilled hole)	3
EFBX	12' aluminum erection fixture for all BX sections	24
HBX	Head only for EFBX	10
P2545	Pole only for EFBX (or EF2545)	12
BXSM	Side mount (28" - 40") w/4', 1-1/4" OD mast (fits sections 1 through 6)	12
BXHBU	Adjustable house bracket (8" - 24") (fits sections 1 through 4)	15
BXSK1	Extra step kit for section 1 (3 steps on one face)	1
BXSK2	Extra step kit for section 2 (3 steps on one face)	1
BXSK3	Extra step kit for section 3 (3 steps on one face)	1
Top and Rotor Plates		
BXT1	Top plate for section 1	2
BXT2	Top plate for section 2	2
BXT3	Top plate for section 3	2-1/2
BXR1	Rotor plate for section 1	1-1/2
BXR2	Rotor plate for section 2	2
BXR3	Rotor plate for section 3	2-1/2
Masts		
M8	8' mast (1-1/4")	6-1/2
M4	4' mast (1-1/4")	3

NOTE: Erection fixtures should only be used to raise one section or any part of a section at one time and are not intended to be used for lifting individuals.

Refer to alphabetical/numerical price list for current prices.

F.O.B. FRANKFORT, INDIANA. SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

SHEET D-2522
Replaces D-2333)

March 1, 1989

PART NUMBER	WT.	PART NUMBER	WT.	PART NUMBER	WT.
Self-Supporting Standard BX Tower with (M8) 8' Mast		Self-Supporting Heavy Duty BX Tower w/(FL) Mast Clamp		Self-Supporting Extra H.D. BX Tower w/(FL) Mast Clamp	
BX24	96				
BX32	142	HBX32	187	HDBX32	231
BX40	205	HBX40	254	HDBX40	305
BX48	273	HBX48	328	HDBX48	397
BX56	351	HBX56	419		
BX64	450				

Note: Concrete base stubs are not included with the above towers. Order all bases as a separate item. However, three steps are included on one face of the top section on the above towers.

PART NUMBER		WT.
4' Concrete Base Stubs (Set of 3) (Tower height not to exceed 64 ft.)		
BXB3	Stubs for section 3	13
BXB4	Stubs for section 4	17
BXB5	Stubs for section 5	18
BXB6	Stubs for section 6	22
BXB7	Stubs for section 7	25
BXB8	Stubs for section 8	25
Self-Supporting 4' Cylinder Base (For use without concrete with mounting hardware) (Tower height not to exceed 48 ft.)		
BXCA3	For use with section 3	93
BXCA4	For use with section 4	101
BXCA5	For use with section 5	111
BXCA6	For use with section 6	121
BXCHK	Cylinder base hardware kit (fits sections 3, 4, 5, & 6)	25

Note: Cylinder base is not intended for use in loose soil (sand). Rohn does not recommend the use of cylinder bases. Cylinder bases are supplied as a convenience item only.

Self-Supporting Hinged Concrete Base for All Sections (Tower height not to exceed 64 ft.)		
BXHC36	Fits sections 3 through 6	27
BXHC78	Fits sections 7 and 8	56

Refer to alphabetical/numerical price list for current prices.

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

SHEET D-2397
(Replaces D-2158)

October 1, 1987

ROHN

ASSEMBLY INSTRUCTIONS

BX SELF-SUPPORTING CYLINDER BASES

1. Assemble the base as shown on Drawing C750409.

2. Place the cylinder in the area the tower is to occupy. (Note: Be sure to position the base so that the tower can be hinged in the direction where there are no obstructions.) Mark off a circle approximately 2 to 3 inches larger than the cylinder.

3. Dig a hole 4 feet deep (deep enough to completely bury the cylinder below ground level).

4. Drop the cylinder in the hole and with it as vertical as possible throw the soil back into the cylinder and around it, tamping it solid after every 6 to 8 inches of fill. (Note: Be sure cylinder is flush or below the ground surface. See Drawing C750409.)

5. When the cylinder is approximately one-half full of dirt, attach the base tower section to the pipe sleeves of the base as shown on Drawing C750409. This is necessary to avoid distortion of the cylinder as you continue to fill and tamp the soil in the base.

6. Continue to fill and tamp the soil into the cylinder to within 6 inches of the top.

7. Plumb the tower section by placing a level on the outside of each leg adjusting to the plumb position by loosening and re-aligning the BXCB1 angle support brackets until the tower is plumb. (Note: The brackets must be extremely tight when the tower section is plumb.)

8. Remove the top 1/2" x 3-1/2" bolts on the pivot side of the tower that holds the pipe sleeves to the yokes. Then remove both bolts on the side opposite the pivot direction. The section can now be hinged to the ground.

9. Assemble the rest of the tower as per BX tower instructions. Hinge the tower up and when vertical put the 1/2" x 3-1/2" bolts back through the yokes and pipe sleeves. Then tighten all base bolts securely.

10. Complete filling the cylinder with dirt and tamp firmly.

11. After installation is completed, the base should be rechecked in about 30 days to be sure that the hardware remains tight and it should be rechecked every six months.

12. Towers installed in sand or gravel should be guyed or bracketed.

CAUTION ... Be sure hinge bolts on hinged type accessories are loosened before attempting to hinge tower up or down. All hinged type bases are recommended to be used to raise tower only without antenna. When raising and lowering tower on any hinged type base, the loads applied for hinging the tower must be applied equally on both sides of the tower in order to reduce the possibility of twist on tower and hinges at the base. Special care must be taken to avoid the use of raising and lowering methods which may cause damage to tower or hinges. Hinged bases should only be installed and dismantled by professional and experienced installers.

NOTES .....

Do not install towers near power lines. All towers should be installed out of falling distance of power lines since every electrical and telephone wire should be considered dangerous.

Rohn recommends anti-climb sections on all towers to prevent unauthorized persons from climbing towers. Only one person should be on the tower at a time.

All antenna installations must be grounded per local or national codes.

All towers should be installed and dismantled by experienced and trained personnel.

All types of antenna installations should be thoroughly inspected by qualified personnel at least twice a year and remarked with hazard and warning labels to insure safety and proper performance. A safety package (part number ACWS) is available which includes one anti-climb warning sign and two Danger - Watch for Wires labels along with other printed safety information.

October 1, 1987

ROHN

MAST ASSEMBLY
BX - STANDARD // HBX - HEAVY DUTY // HDBX - EXTRA HEAVY DUTY TOWERS

1. Two U-bolt assemblies with "L" brackets are supplied for installing the mast. These "L" brackets are bolted through the slotted holes on the rotor and top plate with the short legs of the "L" bracket toward the outside of the tower.
   See Drawing C-750429.

2. Run the U-bolt through the open side of the formed "V" clamp and into the "L" bracket placing the 5/16" nuts and washers on the U-bolt loosely.

3. To install the mast, place one end of it through the upper U-bolt assembly end plate and slide it down into the lower U-bolt assembly. Then tighten the U-bolt assembly to hold the mast.

4. Adjustments to make the mast vertical may be made by moving the "L" brackets in the slotted holes.

The HBX - Heavy Duty and HDBX - Extra Heavy Duty Towers are furnished with a mast clamp installed on the top plate made from a pipe floor flange, which is provided with three bolts to be used as set screws to secure the mast. The box of hardware consists of one U-bolt assembly as described above and it can be installed on the lower plate as is instructed above, if required.

ASSEMBLY INSTRUCTIONS

BREAKING DOWN BUNDLE

1. If your tower includes the 8' mast and/or three 4' base stubs, remove them. Remove the package of nuts, bolts, and washers.

2. Lay the bundle on its side and remove the tower sections. Start with the innermost section of the package (the smallest section) and remove by pulling out with quick, firm jerks. It is not necessary nor desirable to pry the tower sections out with tools as damage may result.

3. Inspect all tower sections on delivery to make sure there are no loose or broken rivets caused by transport mishandling. If a rivet is broken or loose, it should be replaced by a snug-fitting machine bolt and nut, securely tightened.

TOWER

After you have chosen the desired type of base for your tower (concrete base with BXB concrete base stubs, BXHC hinged concrete base, or BXCA cylinder base which hinges over and requires no concrete) and it is properly installed per base instructions, bolt the base section (the largest section) to the base. Proceed with the erection as follows:

1. The legs on each higher section slide inside the previous one and should be positioned on the rivet stop in the previous leg. (This rivet stop is to prevent the tower section being installed from slipping through the previous section and is not for the purpose of aligning the assembly holes.) (Special Note: The BX8 section does not have a rivet stop in it, so extreme caution should be used when installing the BX7 section into the BX8 section.) Proceed by bolting together each section with the proper size bolts.

2. To erect the tower, section by section vertically, you should use an EFBX erection fixture for raising and locating the section being installed into the previous section. (Note: Do not use an erection fixture to lift more than the weight of one tower section at a time.) By using BXHC or BXCA base the tower can be assembled on the ground and hinged up using extreme caution. When hinging up, watch for power lines, trees, etc.

3. Loose, missing or faulty rivets should be replaced with a similar size nut and bolt which can be obtained at any local hardware store.

NOTE: 3/8" bolts are to be used on BX1, BX2 and the top of BX3 sections. 9/16" bolts are used on the bottom of the BX3 and all sections from BX4 through BX8 (BX8 is the largest section).

One set of cross braces on one face of the top section is purposely left off to allow easy access to the rotor plate for installing the mast and rotor. (Note: Only one person should be on the tower at one time.)

CAUTION ... Be sure hinge bolts on hinged type accessories are loosened before attempting to hinge tower up or down. All hinged type bases are recommended to be used to raise tower only without antenna. When raising and lowering tower on any hinged type base, the loads applied for hinging the tower must be applied equally on both sides of the tower in order to reduce the possibility of twist on tower and hinges at the base. Special care must be taken to avoid the use of raising and lowering methods which may cause damage to tower or hinges. Hinged bases should only be installed and dismantled by professional and experienced installers.

SHEET D-2567
(Replaces D-2399)

October 1, 1989

NOTES ON ASSEMBLING ROTATORS

Most all makes of rotators can be installed on the rotor plate inside the top tower section of the BX standard, HBX heavy duty, and HDBX extra heavy duty towers. There is a short piece of tubing furnished with each tower that can be used as a thrust bearing (for 1-1/4" mast) with the mast clamp installed on the top plate as is described under the heading of Mast Assembly. Do not install rotators on the HDBX top plate.

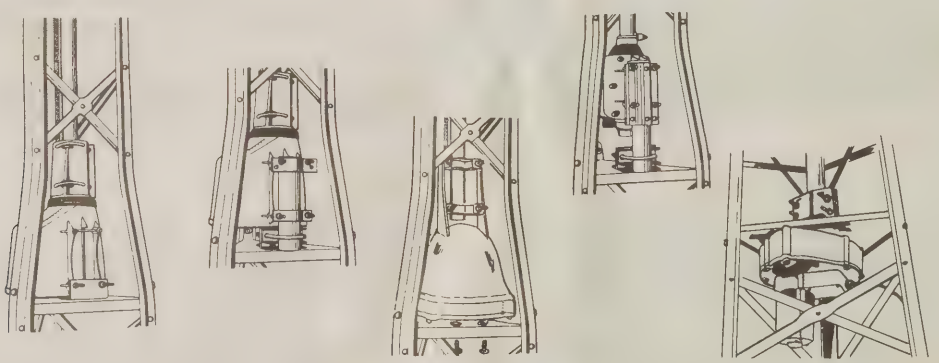
For the HBX - Heavy Duty and HDBX - Extra Heavy Duty Towers, when a rotator is used a 4" piece of tubing or pipe with an I.D. larger than the O.D. of the mast can be installed in the pipe flange clamp and used as a bearing sleeve for the mast to turn in.

FOR ASSEMBLING THE ROTATOR ITSELF, FOLLOW THE PROCEDURES OUTLINED BELOW:

Some inline model rotators mount directly to the rotor plate. (The lower housing of the rotator is not used when this is done.) The necessary holes for mounting most rotors are pre-punched in the plate itself and the bolts furnished to bolt the lower housing to the upper housing (4-1/4" x 1" bolts) are to be inserted from the bottom of the plate upward and into the rotor. It is desirable to place 3/8" nuts to act as spacers between the rotor plate and the rotator.

These nuts will prevent the terminals of the rotator and the rotor wire from shorting on the rotor plate. An 8" piece of tubing is furnished with each tower. It can be installed into the clamp ("V" clamp and "L" shaped brackets furnished for offset rotor installation only) for the offset type rotors. It is necessary to reverse the clamp assembly (to face outside of the tower), opposite that of installing a standard mast to the rotor plate. Some rotators can be mounted directly to the "L" shaped bracket as shown or to the 8' mast as previously described.

Also, some rotators mount beneath the rotor plate (as pictured). It will be necessary to increase the 1/4" holes in the rotor plate to 3/8" holes to use the 3/8" bolts furnished with these rotators. See pictorial views of typical rotor installations:



In all cases be careful during installation.

****

NOTES .....

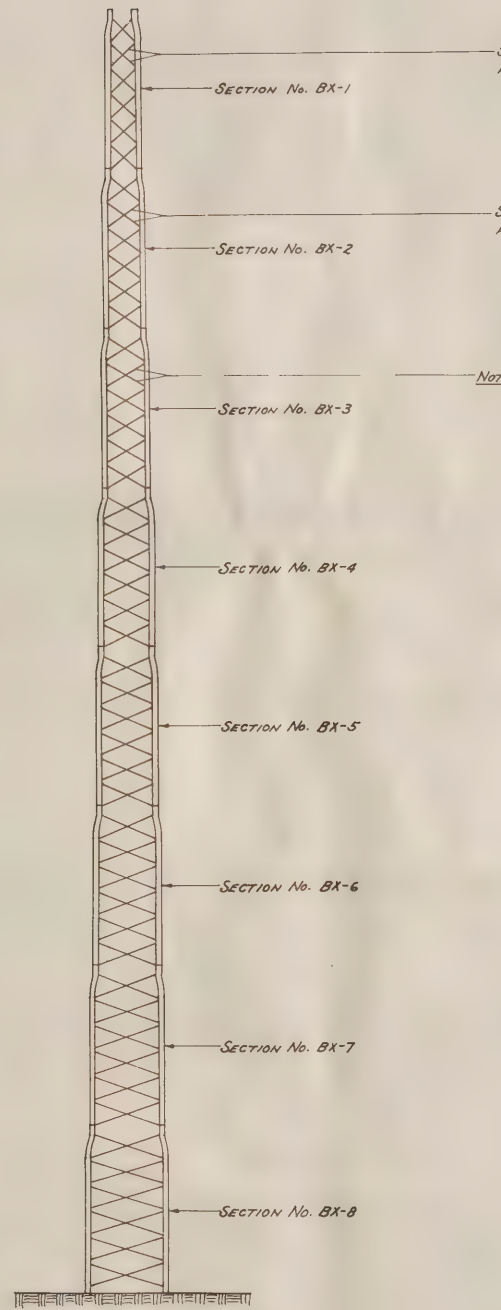
Do not install towers near power lines. All towers should be installed out of falling distance of power lines since every electrical and telephone wire should be considered dangerous.

Rohn recommends anti-climb sections on all towers to prevent unauthorized persons from climbing towers. Only one person should be on the tower at a time.

All antenna installations must be grounded per local or national codes.

All towers should be installed and dismantled by experienced and trained personnel.

All types of antenna installations should be thoroughly inspected by qualified personnel at least twice a year and re-marked with hazard and warning labels to insure safety and proper performance. A safety package (part number ACWS) is available which includes one anti-climb warning sign and two Danger - Watch for Wires labels along with other printed safety information.



NOTE: WHEN THIS SECTION IS USED AS THE TOP SECTION, THESE TWO BRACES ARE OMITTED (ON ONE FACE ONLY) TO ACCOMODATE ROTOR.

REFERENCE DRAWINGS:

SECTION No.1 : DWG. No. C-750429.
SECTIONS 2 THRU 8 : DWG. No. C-750430.
TOP PLATE, ROTOR PLATE, & MAST CLAMPS : DWG. No. C-750429.
FOUNDATION & ANCHOR BOLT SETTING FOR HINGED CONCRETE BASE : DWG. No. C-760099.
CYLINDER BASE INSTALLATION FOR SECTIONS 3,4,5 & 6 : DWG. No. C-750409-82.
DESIGN ASSUMPTIONS : DWG. No. A-750005.
TOWER SECTION PROPERTIES : DWG. No. B-760024.
TOWER DESIGN DATA : DWG. No. B-760025.
TYPICAL TOWER ANALYSIS : DWG. No. A-760000.
ALLOWABLE ANTENNA LOADS : DWG. No. A-760001.

NO.	DESCRIPTION	DATE	BY
	REVISIONS		

ROHN® MANUFACTURING
DIVISION OF Redman

TITLE: BX SERIES TOWER
TYPICAL 64' TOWER (SECTIONS 1 THRU 8)

THIS DRAWING IS THE PROPERTY OF ROHN. IT IS NOT TO BE REPRODUCED OR USED IN WHOLE OR IN PART WITHOUT OUR WRITTEN CONSENT.

FILE NO.

SCALE: NONE | MATERIAL: | FINISH: | WT.

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE GIVEN IN INCHES

TOLERANCES: DEC. ± | FRAC. ± | ANGLES ±

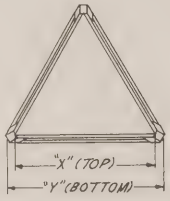
DWG. NO. C-750428

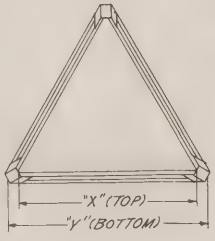
DWN. BY AED	DATE 6-6-75	
CKD. BY DM	DATE 2-2-76	
APP'D. (MGR.)	DATE 2-18-76	
APP'D. (SALES)	DATE 2-19-76	

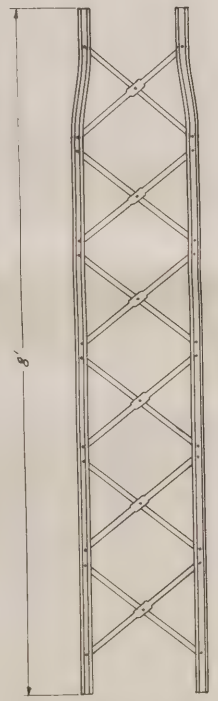
PRINTED IN U.S.A.

GAF 880-250 2-72 48184

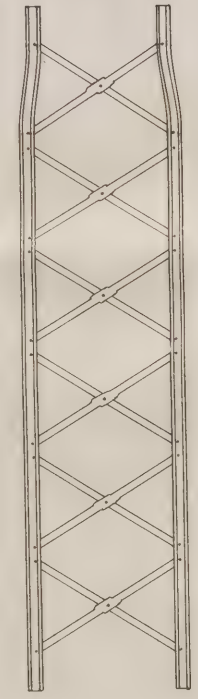
NOTE: SEE DWG. NO. C-750429 FOR DETAILS OF TYPICAL TOP PLATE AND ROTOR PLATE FOR SECTIONS 2 AND 3.



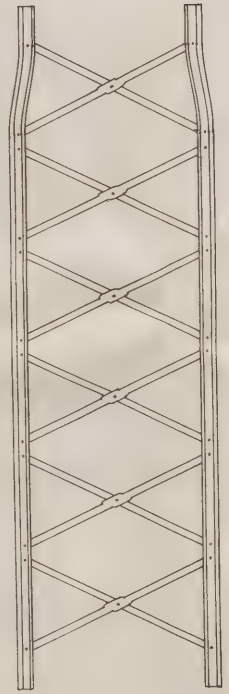




SECTIONS 2, 3, 4

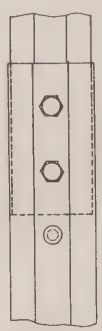


SECTIONS 5, 6

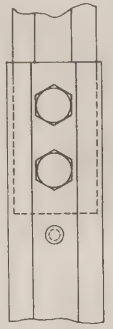


SECTIONS 7, 8

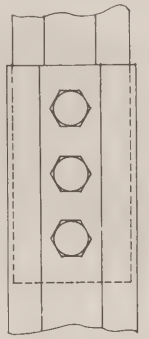
ELEVATIONS OF TYPICAL SECTIONS



TYPICAL LEG JOINT BETWEEN SECTIONS 1-2 SECTIONS 2-3



TYPICAL LEG JOINT BETWEEN SECTIONS 3-4 SECTIONS 4-5 SECTIONS 5-6 SECTIONS 6-7



TYPICAL LEG JOINT BETWEEN SECTIONS 7-8.

SECTION No.	LEG JOINT BOLTS LOCATION	QTY.	SIZE	"X" (TOP)	"Y" (BOTTOM)
BX-2	TOP	2	$\frac{3}{8} \times \frac{3}{4}$	$10\frac{7}{16}$	$12\frac{11}{16}$
	BOTTOM	2	$\frac{3}{8} \times \frac{3}{4}$		
BX-3	TOP	2	$\frac{3}{8} \times \frac{3}{4}$	$12\frac{13}{16}$	$15\frac{1}{16}$
	BOTTOM	2	$\frac{9}{16} \times 1$		
BX-4	TOP	2	$\frac{9}{16} \times 1$	$15\frac{3}{16}$	$17\frac{7}{16}$
	BOTTOM	2	$\frac{9}{16} \times 1$		
BX-5	TOP	2	$\frac{9}{16} \times 1$	$17\frac{5}{8}$	$20\frac{1}{8}$
	BOTTOM	2	$\frac{9}{16} \times 1$		
BX-6	TOP	2	$\frac{9}{16} \times 1$	$20\frac{5}{16}$	$22\frac{13}{16}$
	BOTTOM	2	$\frac{9}{16} \times 1$		
BX-7	TOP	2	$\frac{9}{16} \times 1$	23	$25\frac{1}{2}$
	BOTTOM	3	$\frac{9}{16} \times 1$		
BX-8	TOP	3	$\frac{9}{16} \times 1$	$25\frac{11}{16}$	$28\frac{7}{16}$
	BOTTOM	3	$\frac{9}{16} \times 1$		

NOTE: FOR STRAIGHT SECTIONS ELIMINATE "X" DIMENSION.

NO.	DESCRIPTION	DATE	BY
	REVISIONS		

ROHN® MANUFACTURING
DIVISION OF UNARCO

TITLE
BX SERIES TOWER
(SECTIONS 2 THROUGH 8)

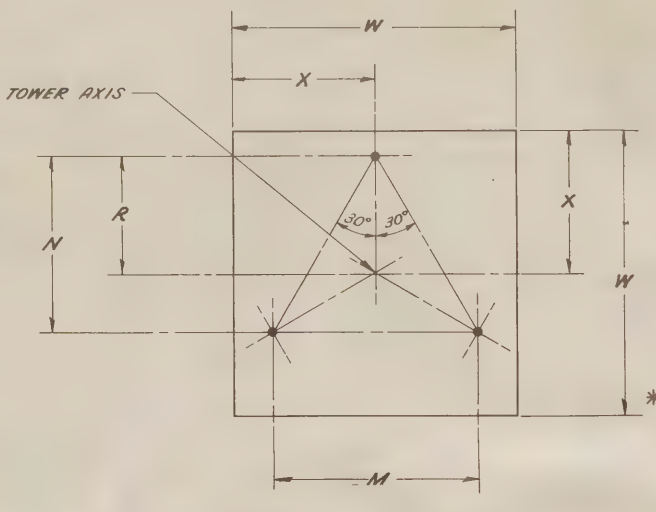
THIS DRAWING IS THE PROPERTY OF ROHN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRACED IN WHOLE OR IN PART WITHOUT OUR WRITTEN CONSENT.

FILE NO.

SCALE	NONE	MATERIAL		FINISH		WT.
DWN. BY	AED	DATE	6-6-75	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE GIVEN IN INCHES.		
CK'D. BY	DJL	DATE	6-3-76	TOLERANCES		DWG. NO.
APP'D. ENGRG.	CW	DATE	2-17-76	DEC. ±	FRAC. ±	ANGLES ±
APP'D. SALES	MAL	DATE	2-19-76			C-750430

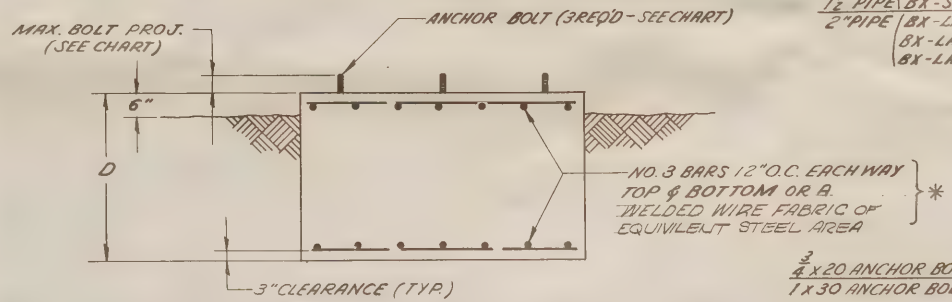
PRINTED IN U.S.A.

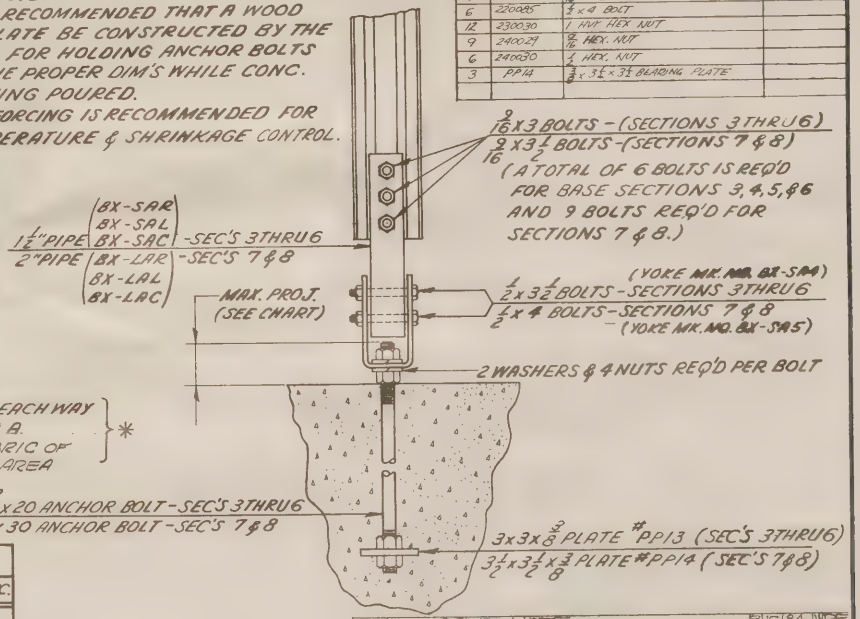
GAF 680-250 2-72 48184



FOUNDATION NOTES

1. CONCRETE, 3000 P.S.I. MIN. ULT. STRENGTH
2. ASTM A-615 GRADE 40 DEFORMED RE-BARS
3. ALL FORMS MUST BE REMOVED FROM CONCRETE BEFORE PLACING COMPACTED BACKFILL.
4. FOUNDATIONS DESIGNED FOR 2000 PSF SOIL.
5. IT IS RECOMMENDED THAT A WOOD TEMPLATE BE CONSTRUCTED BY THE USER FOR HOLDING ANCHOR BOLTS AT THE PROPER DIM'S WHILE CONC. IS BEING POURED.
- *6. REINFORCING IS RECOMMENDED FOR TEMPERATURE & SHRINKAGE CONTROL.


MAX. BOLT PROJ. (SEE CHART)
ANCHOR BOLT (3 REQ'D - SEE CHART)
6"
D
NO. 3 BARS 12" O.C. EACH WAY TOP & BOTTOM OR A WELDED WIRE FABRIC OF EQUIVILENT STEEL AREA
*
3" CLEARANCE (TYP.)


3/16 x 3 BOLTS - (SECTIONS 3 THRU 6)
3/16 x 3 1/2 BOLTS - (SECTIONS 7 & 8)
(A TOTAL OF 6 BOLTS IS REQ'D FOR BASE SECTIONS 3, 4, 5, & 6 AND 9 BOLTS REQ'D FOR SECTIONS 7 & 8.)
1 1/2" PIPE (BX-SAR, BX-SAL, BX-SAC) - SEC'S 3 THRU 6
2" PIPE (BX-LAR, BX-LAL, BX-LAC) - SEC'S 7 & 8
(YOKE MK. NO. BX-SA4)
1/2 x 3 1/2 BOLTS - SECTIONS 3 THRU 6
1/2 x 4 BOLTS - SECTIONS 7 & 8
(YOKE MK. NO. BX-SA5)
MAX. PROJ. (SEE CHART)
2 WASHERS & 4 NUTS REQ'D PER BOLT
3/4 x 20 ANCHOR BOLT - SEC'S 3 THRU 6
1 x 30 ANCHOR BOLT - SEC'S 7 & 8
3 x 3 x 3/8 PLATE # PP13 (SEC'S 3 THRU 6)
3 1/2 x 3 1/2 x 3/8 PLATE # PP14 (SEC'S 7 & 8)

BILL OF MATERIAL (PIN BX-HC 36)

QTY.	PART/NO.	DESCRIPTION	DWG. NO.
1	BX-SAC	STUB, PIPE 1 1/2" STD.	C-760070
1	BX-SAL	STUB, PIPE 1 1/2" STD.	C-760070
1	BX-SAR	STUB, PIPE 1 1/2 STD.	C-760070
3	BX-SA4	YOKE	
3	260017G	3/4 x 20 ANCHOR BOLT	
6	250021	3/4" SPLIT WASHER	
6	220081	1/2 x 3 BOLT	
6	220083	1/2 x 3 1/2 BOLT	
12	230020	3/4 HVY HEX NUT	
6	240029	1/2 HEX. NUT	
6	240030	3/4 HEX. NUT	
3	PP13	3/8 x 3 x 3 BEARING PLATE	

BILL OF MATERIAL (PIN BX-HC 78)

1	BX-LAC	STUB, PIPE 2" STD.	C-760070
1	BX-LAL	STUB, PIPE 2" STD	C-760070
1	BX-LAR	STUB, PIPE 2" STD.	C-760070
3	BX-SA5	YOKE	
3	260018G	1 x 30 ANCHOR BOLT	
6	250039	1" SPLIT WASHER	
9	220080	1/2 x 3 1/2 BOLT	
6	220085	1/2 x 4 BOLT	
12	230030	1 HVY HEX NUT	
9	240029	1/2 HEX. NUT	
6	240030	3/4 HEX. NUT	
3	PP14	3/8 x 3 1/2 x 3 1/2 BEARING PLATE	

3 FT. THICK PAD FOUNDATION

SEC. NO.	M	N	R	MAX. PROJ.	ANCHOR BOLT	BEARING #	D	W	X	CU. YDS. CONC.
3	13 5/16"	11 1/2"	7 11/16"	2 5/8"	3-3/4 x 20"	PP13	3'-0"	3'-9	1'-10 1/2	1.6
4	15 11/16"	13 9/16"	9 1/16"	2 5/8"	3-3/4 x 20"	PP13	3'-0"	4'-3	2'-1 1/2	2.0
5	18 5/16"	15 1/8"	10 9/16"	2 5/8"	3-3/4 x 20"	PP13	3'-0"	4'-9	2'-4 1/2	2.5
6	21"	18 1/8"	12 5/8	2 5/8"	3-3/4 x 20"	PP13	3'-0"	5'-3	2'-7 1/2	3.1
7	23 1/4"	20 5/8"	13 7/16	3 1/4"	3-1 x 30"	PP14	3'-0"	6'-0	3'-0	4.0
8	26 3/16"	22 11/16"	15 1/8	3 1/4"	3-1 x 30"	PP14	3'-0"	6'-6	3'-3	4.7

4 FT. THICK PAD FOUNDATION

SEC. NO.	M	N	R	MAX. PROJ.	ANCHOR BOLT	BEARING #	D	W	X	CU. YDS. CONC.
3	13 5/16"	11 1/2"	7 11/16"	2 5/8"	3-3/4 x 20"	PP13	4'-0"	3'-6	1'-9	1.8
4	15 11/16"	13 9/16"	9 1/16"	2 5/8"	3-3/4 x 20"	PP13	4'-0"	4'-0	2'-0	2.4
5	18 5/16"	15 1/8"	10 9/16"	2 5/8"	3-3/4 x 20"	PP13	4'-0"	4'-6	2'-3	3.0
6	21"	18 3/16"	12 5/8"	2 5/8"	3-3/4 x 20"	PP13	4'-0"	4'-9	2'-4 1/2	3.4
7	23 1/4"	20 5/8"	13 7/16"	3 1/4"	3-1 x 30"	PP14	4'-0"	5'-3	2'-7 1/2	4.1
8	26 3/16"	22 11/16"	15 1/8"	3 1/4"	3-1 x 30"	PP14	4'-0"	5'-9	2'-10 1/2	4.9

	REV. REINF. NOTE	BY	DATE	WR #
R4				
R3	REVISED P/N'S IN BEARING & COLUMN.	GLS	1/17/79	
R2	P/N'S PP13 & PP14 WERE PL-30 & PL-35.	GLS	11/22/78	
R1	ADDED YOKE MK. NO'S & REVISED PIPE MK. NO'S	DH	4-8-76	
R5	ADDED BILL OF MATERIAL	AED	6-18-86	

No. | Revision Description | Date | By

Unarco-Rohn
Division of Unarco Industries, Inc.

Title: FOUNDATION & ANCHOR BOLT DETAILS for MODEL BX TOWER

Scale: NONE	Unless otherwise specified, dimensions are given in inches	
Drawn by: D.H. Date: 1-30-76	Tolerances: Decimals ±	Fractions ±
Checked by: AED Date: 2-3-76	Angles ±	
Approved by Engineering: CW Date: 2-3-76	Material	Finish
Approved by Production: Date	Weight	
Approved by Sales: Date: 2-9-76	File Number	

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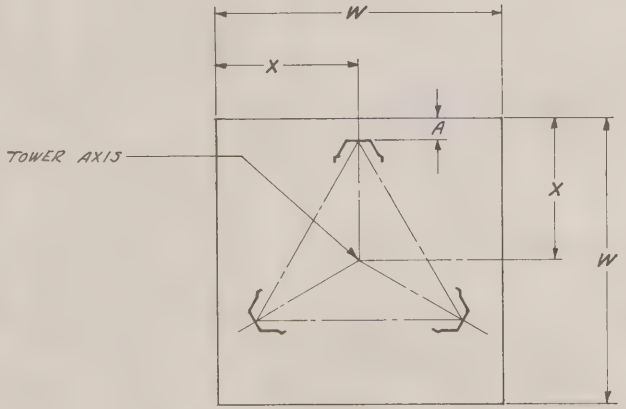
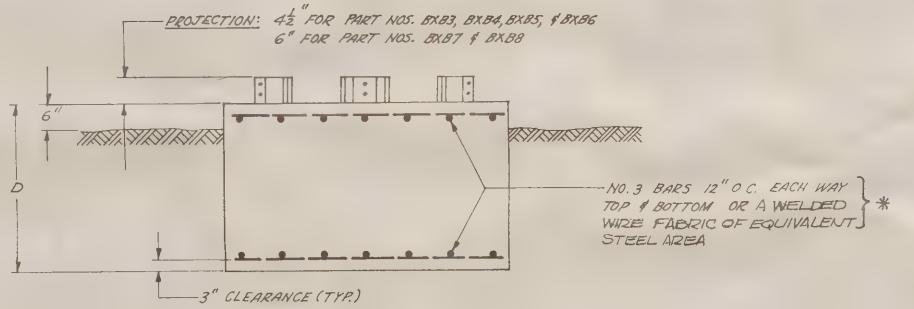
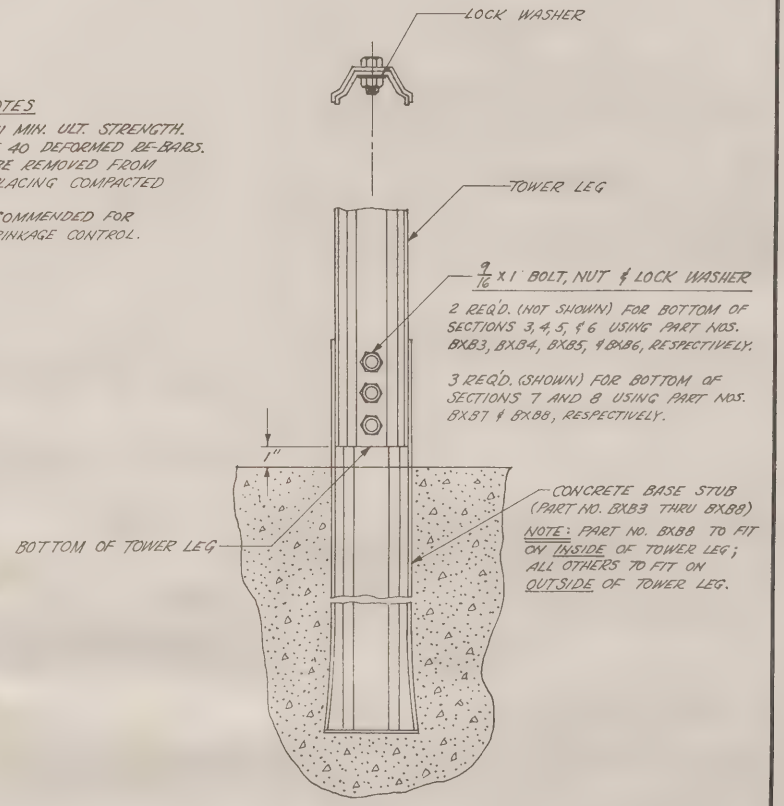
Drawing Number: C-760099 R5



FOUNDATION NOTES

1. CONCRETE, 3000 PSI MIN. ULT. STRENGTH.
2. ASTM A-615 GRADE 40 DEFORMED RE-BARS.
3. ALL FORMS MUST BE REMOVED FROM CONCRETE BEFORE PLACING COMPACTED BACKFILL.
* 4. REINFORCING IS RECOMMENDED FOR TEMPERATURE & SHRINKAGE CONTROL.


PROJECTION: 4½" FOR PART NOS. BXB3, BXB4, BXB5, & BXB6
6" FOR PART NOS. BXB7 & BXB8
6"
D
NO. 3 BARS 12" O.C. EACH WAY TOP & BOTTOM OR A WELDED WIRE FABRIC OF EQUIVALENT STEEL AREA *
3" CLEARANCE (TYP.)


LOCK WASHER
TOWER LEG
9/16 X 1 BOLT, NUT & LOCK WASHER
2 REQ'D. (NOT SHOWN) FOR BOTTOM OF SECTIONS 3, 4, 5, & 6 USING PART NOS. BXB3, BXB4, BXB5, & BXB6, RESPECTIVELY.
3 REQ'D. (SHOWN) FOR BOTTOM OF SECTIONS 7 AND 8 USING PART NOS. BXB7 & BXB8, RESPECTIVELY.
1"
BOTTOM OF TOWER LEG
CONCRETE BASE STUB (PART NO. BXB3 THRU BXB8)
NOTE: PART NO. BXB8 TO FIT ON INSIDE OF TOWER LEG; ALL OTHERS TO FIT ON OUTSIDE OF TOWER LEG.

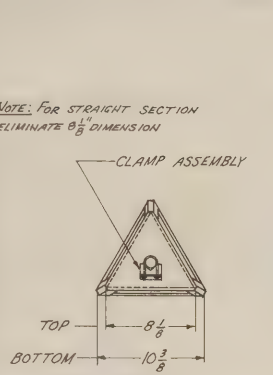
FOUNDATION PAD					
SECT. NO.	W	X	D	CU. YDS. CONCR.	A
3	3'-6"	1'-9"	4'-0"	1.8	1'-0¼"
4	4'-0"	2'-0"	4'-0"	2.4	1'-2"
5	4'-6"	2'-3"	4'-0"	3.0	1'-3½"
6	4'-9"	2'-4½"	4'-0"	3.4	1'-3½"
7	5'-3"	2'-7½"	4'-0"	4.1	1'-4¾"
8	5'-9"	2'-10½"	4'-0"	4.9	1'-6"

No.	Revision Description	Date	By
R1	REV REINF NOTE	5-24-78	RKR

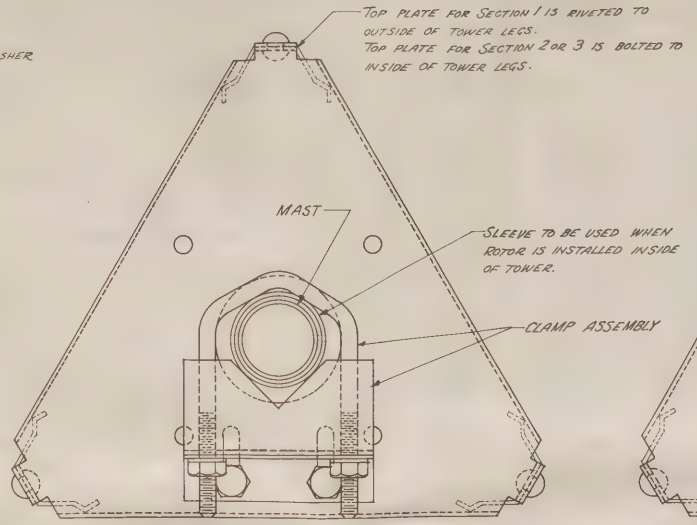
Unarco-Rohn
Division of Unarco Industries, Inc.

Title
FOUNDATION FOR CONCRETE BASE STUBS FOR BX TOWER

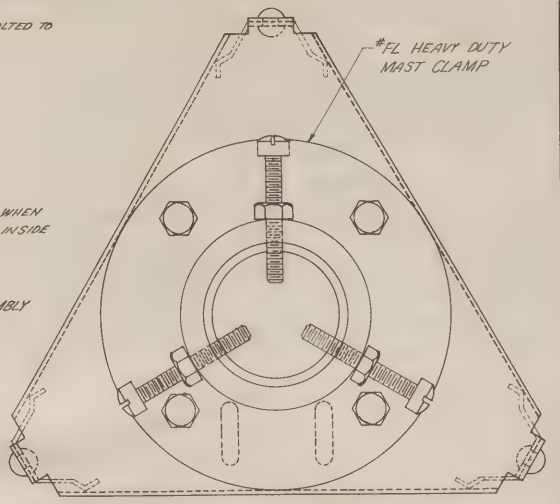
Scale: NONE	Unless otherwise specified, dimensions are given in inches. Tolerances:		
Drawn by: AED	Date: 4-5-78	Decimals: ±	Fractions: ±
Checked by: DKL	Date: 5-24-78	Angles: ±	Material
Approved by Engineering: DW	Date: 5-24-78	Finish	Weight
Approved by Production	Date	This drawing is the property of Unarco-Rohn. It is not to be reproduced, copied or traced in whole or in part without our written consent.	
Approved by Sales: RAL	Date: 5-24-78	File Number	Drawing Number: C7802842



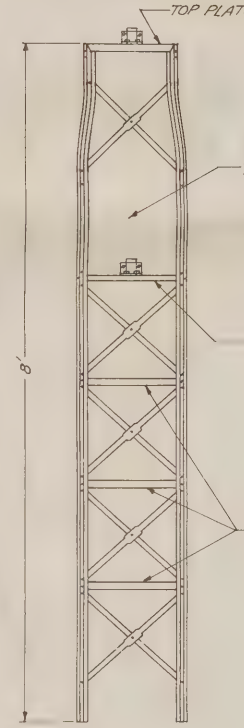
Typical Leg Joint Between Sections 1-2


TOP PLATE FOR SECTION 1 IS RIVETED TO OUTSIDE OF TOWER LEGS.
TOP PLATE FOR SECTION 2 OR 3 IS BOLTED TO INSIDE OF TOWER LEGS.
MAST
SLEEVE TO BE USED WHEN ROTOR IS INSTALLED INSIDE OF TOWER.
CLAMP ASSEMBLY

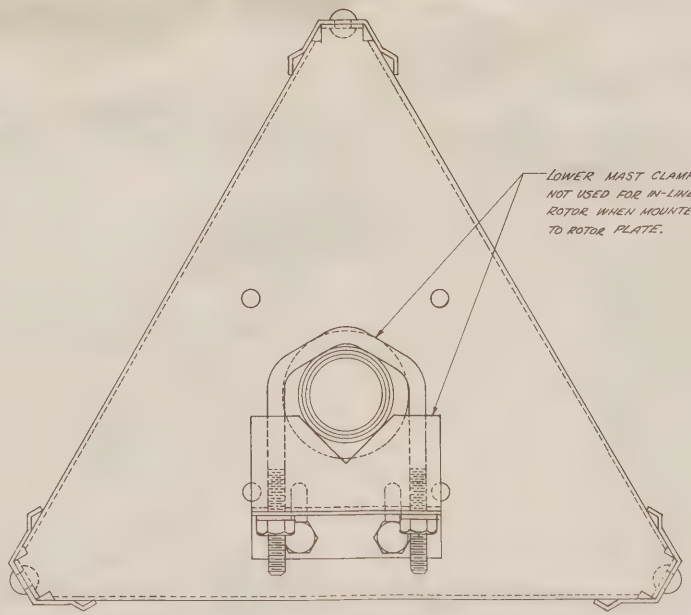
Top Plate with Clamp Assembly



Top Plate with #FL Heavy Duty Mast Clamp


TOP PLATE
8'
THIS BAY OF BRACES IS OMITTED (ONE FACE ONLY) TO ACCOMODATE ROTOR. THIS WOULD BE TYPICAL OF SECTION 2 OR 3 WHEN EITHER IS USED AS A TOP SECTION.
ROTOR PLATE
STEPS (TOP SECTION OF TOWER) (AVAILABLE FOR SECTIONS 1, 2, & 3 ONLY)

Section 1



Rotor Plate with Clamp Assembly

Note:
The clamp assembly is normally used with Section 1 as a top section. The #FL heavy duty mast clamp is normally used with Section 2 or 3 as a top section. Holes are placed on all top plates and rotor plates, however, to accomodate either one.

NO.	DESCRIPTION	DATE	BY
	REVISIONS		

ROHN® MANUFACTURING
DIVISION OF DEARBORN GROUP

TITLE: BX Series Tower (Section 1)

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FILE NO.

SCALE	NONE	MATERIAL		FINISH		WT.
DWN. BY	AED	DATE	6-6-75	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE GIVEN IN INCHES.		
CK'D. BY	DLY	DATE	2-5-76	TOLERANCES DEC. ±	FRAC. ±	ANGLES ±
APP'D. ENG'RG.		DATE	3-17-76	DWG. NO. C-750429		
APP'D. SALES		DATE	5-7-76			

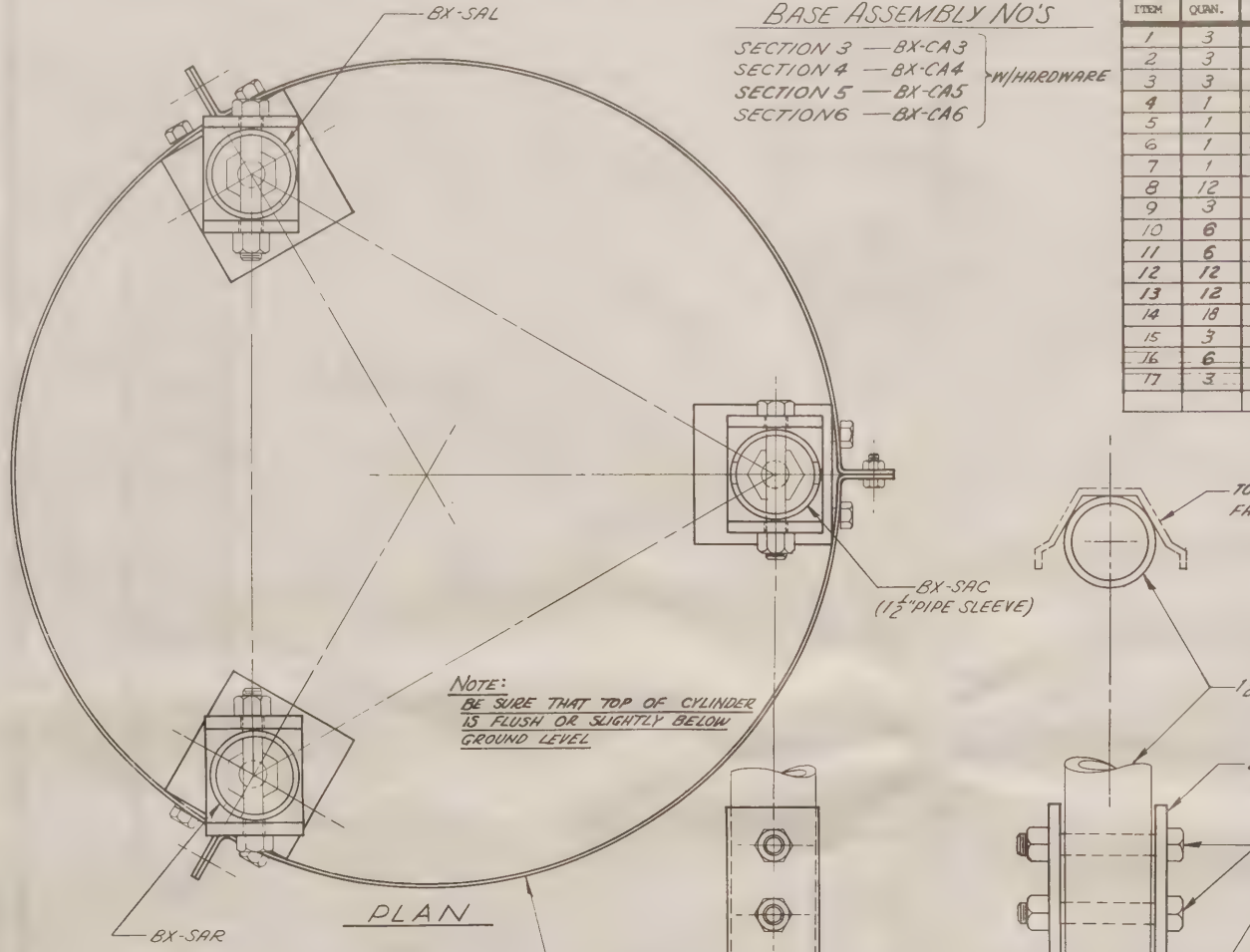
PRINTED IN U.S.A.

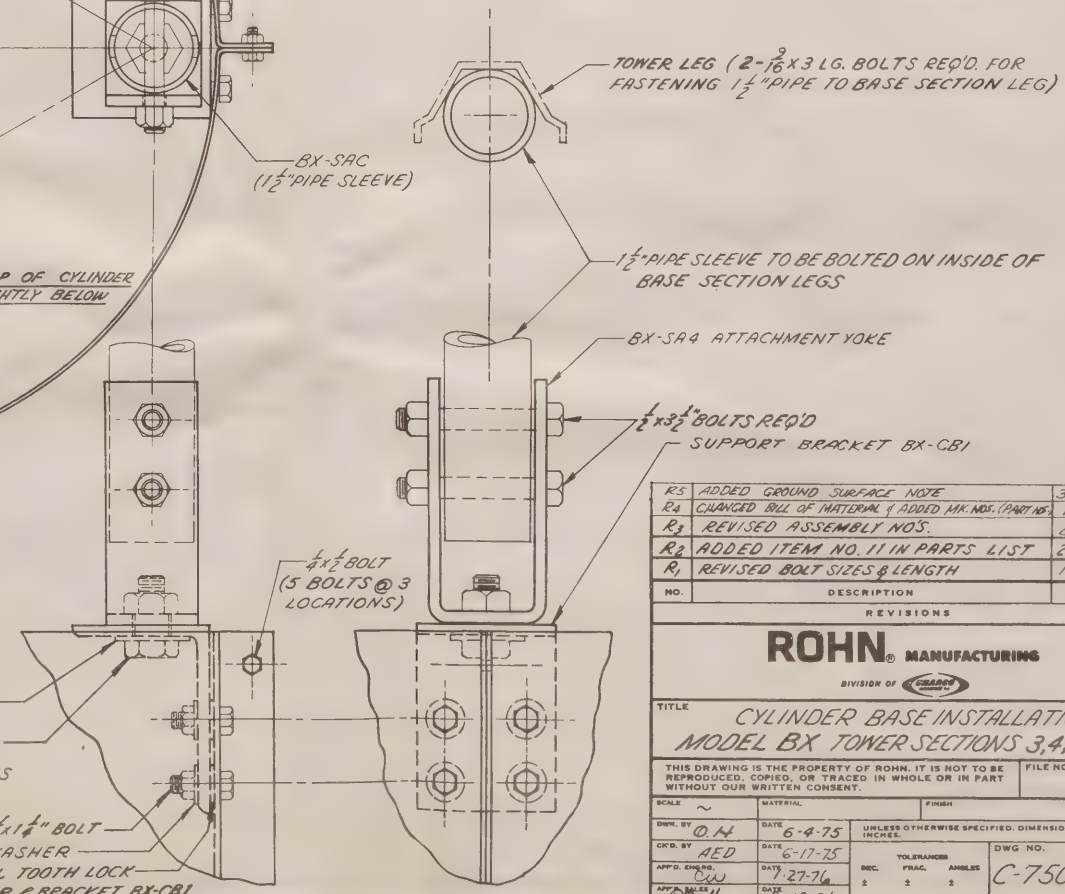
BILL OF MATERIAL

ITEM	QUAN.	MARK NO.	DESCRIPTION	DWG. NO.
1	3	*	CYLINDER SEC. 4'LG.(SEE DWG. PLAN)	C-750410
2	3	BX-CB1	ANGLE SUPPORT BRACKET	C-750410
3	3	BX-SA4	ATTACHMENT YOKE	C-750376
4	1	BX-SAC	CENTER SLEEVE (1 1/2" PIPE)	C-750376
5	1	BX-SAR	RIGHT SIDE SLEEVE (1 1/2" PIPE)	C-750376
6	1	BX-SAL	LEFT SIDE SLEEVE (1 1/2" PIPE)	C-750376
7	1	220074	1/4 x 1/2 BOLT KIT, ZP (15/KIT)	
8	12	210017G	1/2 x 1 1/4 BOLT	
9	3	210045G	3/4 X 1 1/2 BOLT	
10	6	210025G	1/2 X 3 1/2 BOLT	
11	6	220081	9/16 X 3 BOLT, ZP	
12	12	250023	1/2 INTERNAL TOOTH LOCK WASHER	
13	12	250024	1/2 INT. - EXT. TOOTH LOCK WASHER	
14	18	230013	1/2 NUT	
15	3	230020	3/4 NUT	
16	6	240029	9/16 NUT, ZP	
17	3	250017G	3/4 WASHER	

BASE ASSEMBLY NO'S

SECTION 3 — BX-CA3
SECTION 4 — BX-CA4
SECTION 5 — BX-CA5
SECTION 6 — BX-CA6
} W/HARDWARE




TOWER LEG (2-9/16 X 3 LG. BOLTS REQ'D. FOR FASTENING 1 1/2" PIPE TO BASE SECTION LEG)
1 1/2" PIPE SLEEVE TO BE BOLTED ON INSIDE OF BASE SECTION LEGS
BX-SA4 ATTACHMENT YOKE
1/2 X 3 1/2" BOLTS REQ'D
SUPPORT BRACKET BX-CB1
1/4 X 1/2 BOLT (5 BOLTS @ 3 LOCATIONS)
3 REQ'D. PER COMPLETE BASE 4'-0" LG. EACH
SECTION 3 - (BX-CB3)
SECTION 4 - (BX-CB4)
SECTION 5 - (BX-CB5)
SECTION 6 - (BX-CB6)
*
WASHER FOR 3/4" BOLT
3/4 X 1 1/2" BOLT
NOTE: SLOTTED HOLES ARE PROVIDED IN SUPPORT ANGLES FOR THE PURPOSE OF LEVELING THE TOWER.
1/2 X 1 1/4" BOLT
1/2" INTERNAL TOOTH LOCK WASHER
1/2" INTERNAL - EXTERNAL TOOTH LOCK WASHER BETWEEN CYLINDER & BRACKET BX-CB1

NO.	DESCRIPTION	DATE	BY
R5	ADDED GROUND SURFACE NOTE	3-22-79	AED
R4	CHANGED BILL OF MATERIAL & ADDED MK. NOS. (PART NO.)	1-5-78	AED
R3	REVISED ASSEMBLY NOS.	2-12-76	DH
R2	ADDED ITEM NO. 11 IN PARTS LIST	2-1-76	DH
R1	REVISED BOLT SIZES & LENGTH	1-21-76	DH

REVISIONS

ROHN® MANUFACTURING
DIVISION OF CHARTER

TITLE
CYLINDER BASE INSTALLATION for MODEL BX TOWER SECTIONS 3,4,5, & 6

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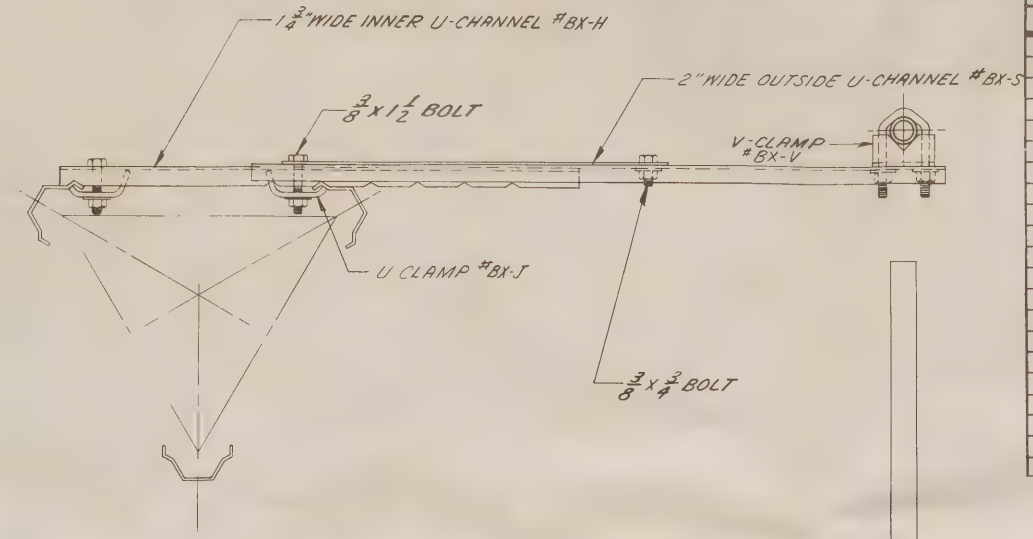
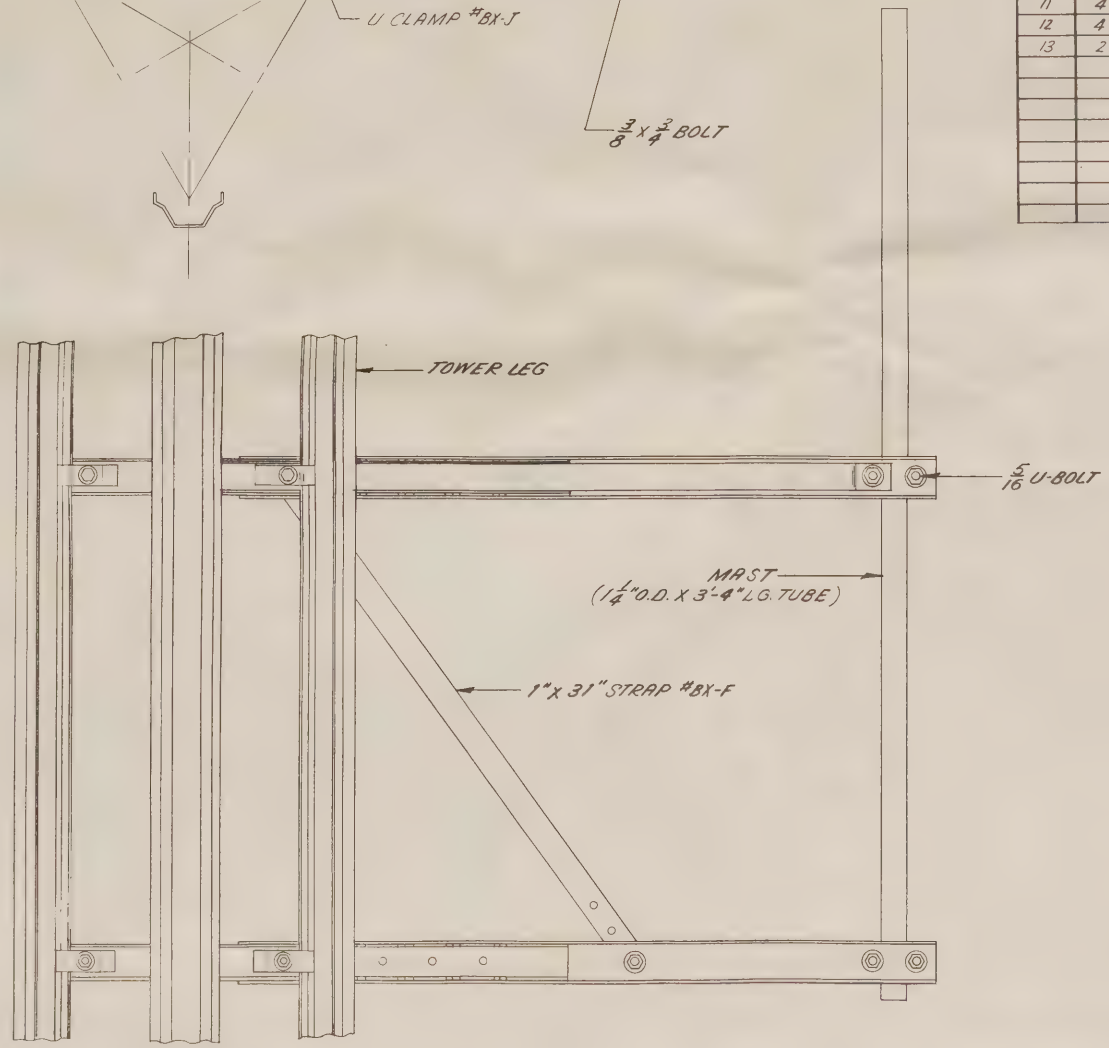
FILE NO.

SCALE	MATERIAL	FINISH	WT.
~			

DWN. BY D.H	DATE 6-4-75	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE GIVEN IN INCHES.
CK'D. BY AED	DATE 6-17-75	TOLERANCES: DEC. ± FRAC. ± ANGLES ±
APP'D. ENG'RG.	DATE 7-27-76	DWG NO. C-750409 R5
APP'D. SALES	DATE 8-19-76	

GAF 680-250 2-72 48194
PRINTED IN U.S.A.





BILL OF MATERIAL

ITEM	QUAN.	PART NO.	DESCRIPTION	DWG. NO.
1	2	BX-S	2" WIDE OUTSIDE CHANNEL	C-76024-R1
2	2	BX-H	1 3/4" WIDE INNER CHANNEL	C-76020-R1
3	4	BX-J	U-CLAMP	C-76023B
4	1	BX-F	1"x 31" STRAP	C-76023B
5	1	490A000100PHP	1 1/4" O.D. x 18 GA. TUBE 3'-4" LONG	
6	4	220086	3/8" x 1 1/2" BOLT	
7	5	240021	3/8" NUT	
8	1	220069	3/8 x 3/4" BOLT	
9	5	250025	3/8" WASHER	
10	2	270034	5/16" U-BOLT	
11	4	240014	5/16" NUT	
12	4	250023	5/16" WASHER	
13	2	BX-V	V-CLAMP	

NOTE: WASHERS SUPPLIED FOR ALL BOLTS.

R2 ADDED BILL OF MATRL.; DELETED BACK BRACE 2-23-77 AED
R1 ADDED PART NO'S. 1-27-77 OH

No.	Revision Description	Date	By

Unarco-Rohn
Division of Unarco Industries, Inc.

Title: BX-SM MOUNT ASSEMBLY

Scale: ~

Unless otherwise specified, dimensions are given in inches
Tolerances
Decimals ± | Fractions ± | Angles ±

Drawn by	O.H	Date	10-9-75
Checked by	WAH	Date	10-10-75
Approved by Engineering	CW	Date	10-10-75
Approved by Production		Date	
Approved by Sales	RAL	Date	8-30-77

Material | Finish | Weight

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File Number

Drawing Number: C-750946 R2

TYPICAL TOWER ANALYSIS

TOWER DESIGN DATA: MODEL BX-64
WIND PRESSURE —— 20 PSF
ANTENNA LOAD — 6 SQ. FT. AT 3 FT. ABOVE TOWER TOP - $\frac{1}{2}$ IN. LINE
ANTENNA WT. = 50 LBS.
LINE WT. = 0.5 LBS./FT.

NOTE: ANTENNAS DEVELOPING A LARGE TWISTING MOMENT DUE TO WIND MUST NOT BE USED ON THIS TOWER. ANTENNAS SHOULD BE LIMITED TO THOSE HAVING A MAXIMUM BOOM LENGTH OF 10 FT.

SECTION No.	8	7	6	5	4	3	2	1
DISTANCE FROM TOP (FT.)	61.7	53.7	46.0	38.3	30.7	23.0	15.3	7.7
WIND ON SECTION (LBS.)	179.7	161.7	150.0	139.5	115.5	107.7	101.1	96.0
WIND ON ANTENNA & LINE (LBS.)	5.5	5.3	5.3	5.3	5.3	5.3	5.3	127.4
TOTAL WIND ON SECTION (LBS.)	185.2	167.0	155.3	144.8	120.8	113.0	106.4	223.4
SHEAR (LBS.)	1215.9	1030.7	863.7	708.4	563.6	442.8	329.8	223.4
MOMENT (FT.-LBS.)	37,770	28,790	21,530	15,500	10,620	6770	3810	1690
FACE WIDTH (FT.)	2.284	2.047	1.824	1.602	1.381	1.184	.989	.794
.866 × FACE WIDTH (FT.)	1.978	1.773	1.580	1.388	1.196	1.025	.856	.688
LEG LOAD (LBS.) ①	19,100	16,240	13,630	11,170	8880	6600	4450	2460
SECTION WEIGHT (LBS.)	82	75	64	59	41	28	23	22
TOTAL WEIGHT (LBS.)	476	390	312	244	181	136	104	77
*LEG LOAD WITH WEIGHT (LBS.)	19,260	16,370	13,730	11,250	8940	6650	4490	2480
SHEAR ONE FACE (LBS.) ②	815	691	579	475	378	297	221	150
cos ϕ	.904	.883	.858	.827	.783	.733	.667	.580
*LOAD EACH BRACE (LBS.) ③	451	391	337	287	241	203	166	129

① LEG LOAD = $\frac{\text{MOMENT}}{.866 \times \text{FACE WIDTH}}$

② SHEAR ONE FACE = .67 × SHEAR

③ LOAD EACH BRACE = $\frac{\text{SHEAR ONE FACE}}{2 \times \cos \phi}$

* REFER TO DWG. No. B-760025 FOR ALLOWABLE LOADS OF MEMBERS & CONNECTIONS.

DWG. No. A-760000

Model BX Tower

Allowable Antenna Loads *

Wind Pressure = 20 PSF (70.7 MPH)

Nominal Height, Ft.	Combination of Tower Sections	Catalog No.	Area, Sq. Ft.	Thrust, Lbs.
24	BX-1-2-3	BX-24	6	120
	BX-2-3-4	HBX-24	12	240
	BX-3-4-5	HDBX-24	20	400
32	BX-1-2-3-4	BX-32	6	120
	BX-2-3-4-5	HBX-32	12	240
	BX-3-4-5-6	HDBX-32	18	360
40	BX-1-2-3-4-5	BX-40	6	120
	BX-2-3-4-5-6	HBX-40	10	200
	BX-3-4-5-6-7	HDBX-40	18	360
48	BX-1-2-3-4-5-6	BX-48	6	120
	BX-2-3-4-5-6-7	HBX-48	10	200
	BX-3-4-5-6-7-8	HDBX-48	18	360
56	BX-1-2-3-4-5-6-7	BX-56	6	120
	BX-2-3-4-5-6-7-8	HBX-56	10	200
64	BX-1-2-3-4-5-6-7-8	BX-64	6	120

* THIS LOAD CAN BE APPLIED AT A POINT 3FT. ABOVE THE APEX OF THE TOWER IN ADDITION TO THE GIVEN WIND PRESSURE ACTING ON THE TOWER.

NOTE: ANTENNA TYPES SHOULD BE LIMITED TO THOSE HAVING A MAXIMUM BOOM LENGTH OF 10 FEET. NO ENGINEERING DATA RELATING TO THE USE OF BOOM LENGTHS IN EXCESS OF 10 FEET IS AVAILABLE AND THE USE OF SUCH BOOM LENGTHS IS NOT RECOMMENDED.

DWG. NO. A-760001 R1

PARTS LIST P-470
(Replaces P-285)

June 1, 1986

B X T O W E R

TOWERS AS PACKAGED FOR SHIPPING													OPTIONAL ACCESSORIES															
TOWER MODEL		BX1A	BX2	BX2A	BX3	BX3A	BX4	BX5	BX6	BX7	BX8	M8	BXB3	BXB4	BXB5	BXB6	BXB7	BXB8	BXCA3	BXCA4	BXCA5	BXCA6	BXCHK*	BXHC36	BXHC78	BXSM	EFBX
BX	24	x	x		x							x	-						-				-	-		-	-
	32	x	x		x		x					x		-						-			-	-		-	-
	40	x	x		x		x	x				x			-						-		-	-		-	-
	48	x	x		x		x	x	x			x				-						-		-	-		-	-
	56	x	x		x		x	x	x	x		x					-							-	-		-	-
	64	x	x		x		x	x	x	x	x	x						-							-	-		-
HBX																												
	24			x	x		x							-										-		-	-
	32			x	x		x	x							-									-		-	-
	40			x	x		x	x	x							-								-		-	-
	48			x	x		x	x	x	x							-								-	-	-
	56			x	x		x	x	x	x	x							-							-	-	-
HDBX																												
	24					x	x	x							-									-		-	-
	32					x	x	x	x							-								-		-	-
	40					x	x	x	x	x							-								-	-	-
	48					x	x	x	x	x	x							-							-	-	-

*Supplied with all Cylinder Bases.

NOTE: Be sure you select type of base and ORDER SEPARATELY for BX, HBX, and HDBX towers.

CAUTION ..... AX hardware is not interchangeable with BX hardware.

All types of antenna installations should be thoroughly inspected by qualified personnel at least twice a year and remarked with hazard and warning labels to insure safety and proper performance.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

MODEL BX TOWER DESIGN ASSUMPTIONS

TOWER MATERIAL SPECIFICATIONS:

LEGS: ASTM A-446 GRADE C STEEL (MINIMUM YIELD POINT - 45,000 PSI)
(GALVANIZED ACCORDING TO ASTM A-525)

BRACES: COLD ROLLED C-1017 STEEL (MINIMUM YIELD POINT - 36,000 PSI)
(GALVANIZED ACCORDING TO ASTM A-525)

LEG SPLICE BOLTS: SAE GRADE 5 STEEL

RIVETS: 2017-T4 ALUMINUM ALLOY

TOWER MEMBER ALLOWABLE DESIGN STRESSES:

NOTE: ALLOWABLE STRESSES BELOW HAVE BEEN INCREASED BY 33⅓% FOR THE WIND LOAD CONDITION.①

LEGS:

COMPRESSION — (STRESS VARIES ACCORDING TO SLENDERNESS RATIO)②
BEARING —— 126,000 PSI③
SHEAR —— 24,000 PSI④

BRACES:

COMPRESSION — (STRESS VARIES ACCORDING TO SLENDERNESS RATIO)②
BEARING —— 100,800 PSI③
SHEAR —— 19,330 PSI④

BOLTS:

SHEAR —— 29,300 PSI (THREADS EXCLUDED FROM SHEAR PLANE)⑤

RIVETS:

SHEAR —— 18,120 PSI⑥
BEARING —— 53,400 PSI⑥

① PAR. 3.1.2.1 OF A.I.S.I. "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", 1968 EDITION.
② A.I.S.C. MANUAL OF STEEL CONSTRUCTION, 7TH EDITION, PGS. 5.84 & 5.86.
③ PAR. 4.5.3 OF A.I.S.I. SPECIFICATIONS, 1968 EDITION.
④ A.I.S.C. MANUAL OF STEEL CONSTRUCTION, 7TH EDITION, PG. 5.64.
⑤ PAR. 4.5.4 OF A.I.S.I. SPECIFICATIONS, 1968 EDITION.
⑥ ALUMINUM CONSTRUCTION MANUAL, "SPECIFICATIONS FOR ALUMINUM STRUCTURES", 1967 EDITION.

TOWER SHAPE FACTORS:

INDIVIDUAL MEMBERS (LEGS, BRACES, TRANSMISSION LINES)

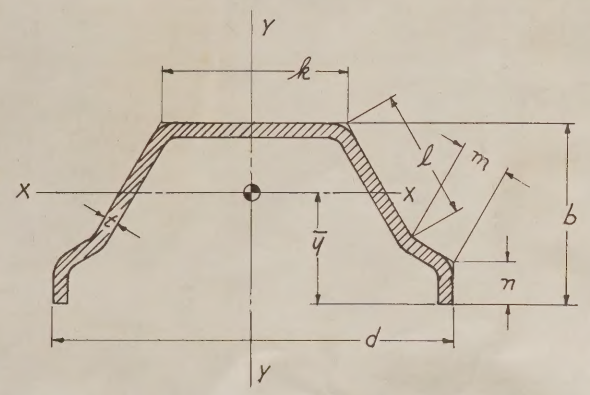
SHAPE FACTOR: 1.00 FOR FLAT ELEMENTS
.67 FOR CYLINDRICAL ELEMENTS

TOWER SECTION:

SHAPE FACTOR: 1.50 TIMES THE PROJECTED AREA OF INDIVIDUAL MEMBERS IN ONE FACE.

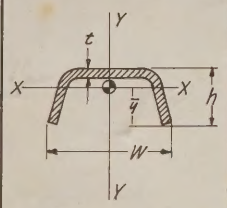
DWG. NO. A-750005

Model BX Tower Section Properties



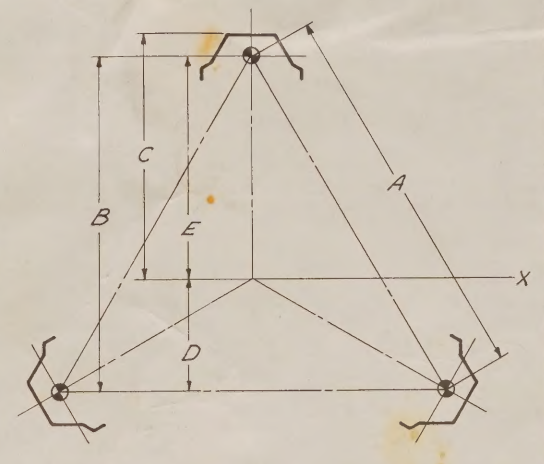
Section Properties of Vertical Elements

Sect.	t IN.	b IN.	d IN.	k IN.	l IN.	m IN.	n IN.	Area, IN.²	ȳ IN.	I_x IN.⁴	r_x IN.	I_y IN.⁴	r_y IN.
BX-1	.048	1.1742	2.0984	.7500	1.0134	.1934	.1999	.1637	.6890	.0236	.380	.0746	.675
BX-2	.048	1.1887	2.2145	.8286	1.0198	.2114	.1999	.1698	.7052	.0256	.388	.0862	.712
BX-3	.060	1.2151	2.3544	.9210	1.0298	.2330	.2068	.2228	.7233	.0346	.394	.1260	.752
BX-4	.085	1.2596	2.5441	1.0422	1.0476	.2623	.2212	.3296	.7511	.0548	.408	.2156	.809
BX-5	.1008	1.3058	2.7661	1.1818	1.0704	.2967	.2305	.4151	.7863	.0742	.423	.3172	.874
BX-6	.1008	1.3428	2.9881	1.3214	1.0932	.3311	.2305	.4407	.8160	.0838	.436	.3926	.944
BX-7	.1158	1.3946	3.2399	1.4784	1.1206	.3700	.2391	.5384	.8522	.1106	.453	.5594	1.019
BX-8	.1158	1.5780	3.4916	1.6354	1.1480	.4089	.3794	.6043	.9769	.1540	.505	.7810	1.137



Section Properties of Diagonal Elements

Sect.	t IN.	h IN.	W IN.	Area, IN.²	ȳ IN.	I_x IN.⁴	r_x IN.	I_y IN.⁴	r_y IN.
BX-1	.048	.35	.75	.054	.235	.000620	.107	.00330	.247
BX-2	.048	.35	.75	.054	.235	.000620	.107	.00330	.247
BX-3	.048	.35	.75	.054	.235	.000620	.107	.00330	.247
BX-4	.060	.35	.75	.0675	.228	.000732	.104	.00394	.242
BX-5	.075	.46	1.05	.1125	.307	.002164	.139	.01342	.345
BX-6	.075	.46	1.05	.1125	.307	.002164	.139	.01342	.345
BX-7	.075	.46	1.05	.1125	.307	.002164	.139	.01342	.345
BX-8	.075	.46	1.05	.1125	.307	.002164	.139	.01342	.345



Section Properties of Tower

Sect.	Area (3 Legs) IN.²	A IN.	B IN.	C IN.	D IN.	E IN.	I_x IN.⁴	r_x IN.	Weight, Lbs.
BX-1	.491	9.53	8.25	5.99	2.75	5.50	7.50	3.91	22
BX-2	.509	11.86	10.27	7.33	3.42	6.85	12.03	4.86	23
BX-3	.668	14.20	12.30	8.69	4.10	8.20	22.58	5.81	28
BX-4	.989	16.58	14.35	10.08	4.78	9.57	45.44	6.78	41
BX-5	1.245	19.23	16.65	11.62	5.55	11.10	76.94	7.86	59
BX-6	1.322	21.89	18.96	13.16	6.32	12.64	105.9	8.95	64
BX-7	1.615	24.56	21.27	14.72	7.09	14.18	162.7	10.04	75
BX-8	1.813	27.41	23.73	16.42	7.91	15.82	227.4	11.20	82

Dwg. No. B-760024

MODEL BX TOWER DESIGN DATA

SECT.	PROJECTED AREAS: VERTICAL LEGS: EXPOSED WIDTH (1 LEG) IN.	VERTICAL LEGS: LENGTH, IN.	VERTICAL LEGS: EXPOSED AREA (1 LEG) FT.²	VERTICAL LEGS: EXPOSED AREA (1 FACE) FT.²	DIAGONALS: WIDTH IN.	DIAGONALS: TOTAL EXPOSED LENGTH (1 FACE) IN.	DIAGONALS: EXPOSED AREA (1 FACE) FT.²	TOTALS: TOTAL EXPOSED AREA (1 FACE) FT.²	TOTALS: TOTAL EXPOSED SECTION AREA FT.²	WIND LOAD PER SECT., LBS. AT WIND PRESSURE OF: 10 PSF	15 PSF	20 PSF	ALLOWABLE LOADS AT VERTICAL LEG SPLICES: SPLICE BOLTS: No.	SPLICE BOLTS: DIA.	THICK. OF LEG, IN.	ALLOWABLE TENSILE LEG SPLICE CAPACITY LBS.	ALLOWABLE LOADS AT DIAGONAL CONNECTIONS: RIVET DIA., IN.	THICK. OF BRACE, IN.	AREA IN.²: BRG.	AREA IN.²: SHEAR	ALLOW. LOAD, LBS.: BRG.	ALLOW. LOAD, LBS.: SHEAR
BX-1	1.73	96	1.15	2.30	.75	173.4	.90	3.20	4.800	48.0	72.0	96.0	2	3/8	.048	5630	5/32	.048	.0075	.0192	400	348
BX-2	1.79	96	1.19	2.38	.75	190.5	.99	3.37	5.055	50.6	75.8	101.1	2	3/8	.048	5810	5/32	.048	.0075	.0192	400	348
BX-3	1.87	96	1.25	2.50	.75	209.2	1.09	3.59	5.385	53.9	80.8	107.7	2	9/16	.060	7320	5/32	.048	.0075	.0192	400	348
BX-4	1.99	96	1.33	2.66	.75	229.0	1.19	3.85	5.775	57.8	86.6	115.5	2	9/16	.085	10,910	3/16	.060	.0112	.0276	598	500
BX-5	2.12	96	1.41	2.82	1.05	251.6	1.83	4.65	6.975	69.8	104.6	139.5	2	9/16	.1008	13,870	1/4	.075	.0187	.0491	1000	890
BX-6	2.24	96	1.49	2.98	1.05	276.6	2.02	5.00	7.500	75.0	112.5	150.0	2	9/16	.1008	14,880	1/4	.075	.0187	.0491	1000	890
BX-7	2.39	96	1.59	3.18	1.05	303.8	2.21	5.39	8.085	80.9	121.3	161.7	3	9/16	.1158	18,340	1/4	.075	.0187	.0491	1000	890
BX-8	2.65	96	1.77	3.54	1.05	335.6	2.45	5.99	8.985	89.9	134.8	179.7	3	9/16	.1158	20,910	1/4	.075	.0187	.0491	1000	890

SECT.	ALLOWABLE COMPRESSIVE LOADS: VERTICAL LEGS: L_v IN.	r_v IN.	$\frac{L_v}{r_v}$	F'_a PSI	F_a PSI	CROSS-SECT. AREA (1 LEG) IN.²	ALLOWABLE LEG LOAD, LBS.	DIAGONAL BRACES: L_D IN.	r_D IN.	$\frac{L'_D}{r_D}$ *	F'_a PSI	F_a PSI	CROSS-SECT. AREA IN.²	ALLOWABLE BRACE LOAD, LBS.
BX-1	12 1/2	.380	32.9	24,300	32,400	.1637	5300	15.34	.107	71.7	16,250	21,660	.054	1170
BX-2	12 1/2	.388	32.2	24,380	32,500	.1698	5520	16.78	.107	78.4	15,540	20,720	.054	1120
BX-3	12 1/2	.394	31.7	24,430	32,570	.2228	7260	18.41	.107	86.0	14,670	19,560	.054	1060
BX-4	12 1/2	.408	30.6	24,540	32,710	.3296	10,780	20.16	.104	96.9	13,360	17,810	.0675	1200
BX-5	12 1/2	.423	29.6	24,650	32,870	.4151	13,640	22.22	.139	79.9	15,370	20,490	.1125	2310
BX-6	12 1/2	.436	28.7	24,740	32,990	.4407	14,540	24.41	.139	87.8	14,560	19,410	.1125	2180
BX-7	12 1/2	.453	27.6	24,850	33,130	.5384	17,840	26.66	.139	95.9	13,490	17,990	.1125	2020
BX-8	12 1/2	.505	24.8	25,130	33,510	.6043	20,250	29.19	.139	105.0	12,330	16,440	.1125	1850

* $L'_D = \frac{1}{2} L_D$

SECT. 5 & 6 RIVET DIA. CHANGED 10-1-77

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